

CLAIMS

[cl001] 1. A curing light comprising:

a wand for grasping by a human hand in order to manipulate the curing light, said wand having a longitudinal axis and a length L_W along its longitudinal axis, controls on said wand for controlling transmission of light from the curing light, an elongate heat sink located at least partially within said wand, said elongate heat sink having a proximal end, a distal end and a longitudinal axis therebetween, said elongate heat sink having a length L_H ,

a mounting platform located at said elongate heat sink distal end, a primary heat sink mounted to said mounting platform, said primary heat sink being smaller in overall volume than said elongate heat sink, a well located on said primary heat sink, and a light emitting semiconductor device mounted in said well of said primary heat sink;

wherein L_H is a substantial percentage of L_W

[cl002] 2. A curing light as recited in claim 1 wherein L_H is less than about 50% of L_W

[cl003] 3. A curing light as recited in claim 1 wherein L_H more than about 50% of L_W .

[cl004] 4. A curing light as recited in claim 1 wherein L_H is more than about 60% of L_W .

[cl005] 5. A curing light as recited in claim 1 wherein L_H more than about 70% of L_W

[cl006] 6. A curing light as recited in claim 1 wherein L_H is more than about 80% of L_W .

[cl007] 7. A curing light as recited in claim 1 wherein L_H more than about 90% of L_W

[cl008] 8. A curing light as recited in claim 1 wherein L_H is more than about 90% of L_W

[cl009] 9. A curing light as recited in claim 1 wherein L_H is up to about 100% of L_W .

[cl0109] 10. A curing light comprising:

a wand for grasping by a human hand in order to manipulate the curing light, said wand having a longitudinal axis and a length L_W along its longitudinal axis, controls on said wand for controlling transmission of light from the curing light, an elongate heat sink located at least partially within said wand, said elongate heat sink having a proximal end, a distal end and a longitudinal axis therebetween, said elongate heat sink having a length L_H , and

a light emitting semiconductor device mounted at said elongate heat sink distal end, said light emitting semiconductor device having a plurality of epitaxial layers, at least one of said epitaxial layers emitting photons when bombarded by electrons.

[cl011] 11. A curing light as recited in claim 10 wherein L_H is less than about 50% of L_W

[cl012] 12. A curing light as recited in claim 10 wherein L_H more than about 50% of L_W .

[cl013] 13. A curing light as recited in claim 10 wherein L_H is more than about 60% of L_W

[cl014] 14. A curing light as recited in claim 10 wherein L_H more than about 70% of L_W .

[cl015] 15. A curing light as recited in claim 10 wherein L_H is more than about 80% of L_W .

- [cl016] 16. A curing light as recited in claim 10 wherein L_H more than about 90% of L_W .
- [cl017] 17. A curing light as recited in claim 10 wherein L_H is more than about 90% of L_W .
- [cl018] 18. A curing light as recited in claim 10 wherein L_H is up to about 100% of L_W .
- [cl019] 19. A curing light as recited in claim 10 wherein said light emitting semiconductor device is selected from the group consisting of light emitting diode chips, laser chips, light emitting diode chip array, diode laser chips, diode laser chip arrays, surface emitting laser chips, edge emitting laser chips, and VCSEL chips.